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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,179	07/25/2001	James A. Davis	B-4258 618972-1	7157

7590 03/26/2004  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

MOISE, EMMANUEL LIONEL

ART UNIT	PAPER NUMBER
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2136

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/915,179

Applicant(s)

DAVIS ET AL.

Examiner

Emmanuel L. Moise

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,11,12,21-26,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,11,12,21-26,32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6, 10, and 11.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2136

### **DETAILED ACTION**

1. Claims 1-6, 11-12, 21-26, and 32-33 are presented for examination.

#### ***Specification***

2. The specification is objected to because Applicant has failed to provide the section headings of the different sections of the specification as provided in 37 CFR 1.77(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 11-12, 21-26, and 32-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Aichelmann (U.S. Patent No. 4,458,349).

As per claim 1, Aichelmann teaches the claimed method for controlling a magnetoresistive solid state storage device having a plurality of storage cells for storing a block of ECC encoded data, the method comprising the steps of:  
accessing a set of the plurality of storage cells (column 4, lines 18-31); and  
determining whether information is unrecoverable from a block of ECC encoded data in the accessed storage cells (column 4, lines 41-65).

As per claim 2, Aichelmann teaches that the method comprises the step of attempting to perform ECC decoding of the block of ECC encoded data (column 4, lines 27-33).

As per claim 3, Aichelmann teaches to continue use of the storage cells if the ECC decoding recovers information from the block of ECC encoded data (column 4, lines 58-62).

As per claim 4, Aichelmann teaches to take remedial action concerning the set of storage cells if the ECC decoding does not recover information from the block of ECC encoded data (column 4, lines 33-40 and 62-65).

As per claim 5, Aichelmann teaches to compare the identified number of failed symbols against a threshold value (column 4, lines 53-57).

Art Unit: 2136

As per claim 6, Aichelmann teaches that the method determines any failed symbols in the block of ECC encoded data regardless of the source of the failure (column 2, lines 59-63).

As per claim 11, Aichelmann teaches that the method determines that there are more failed symbols than can be reliably corrected by error correction decoding the block of ECC encoded data (column 2, lines 55-58).

As per claim 12, it is inherent in Aichelmann that, due to the number of failed symbols, there is an unacceptable probability that decoding the block of ECC encoded data will not correctly recover original information.

As per claim 21, the block of encoded data in Aichelmann also corresponds to a sector of original information (column 4, lines 19-22).

As per claim 22, Aichelmann teaches that the block of ECC encoded data is a codeword and a plurality of codewords are grouped to form an encoded sector corresponding to a sector of original information (column 4, lines 23-27).

As per claims 23 and 24, Aichelmann inherently teaches that the method is performed prior to and/or during use of the storage device (see Abstract, and column 4, lines 18-31).

5. As per claims 25-26 and 32-33, Aichelmann also teaches the claimed invention as described above since all the limitations in claims 25-26 and 32-33 have already been addressed in the rejection of claims 1-6, 11-12, and 21-24. Please note that Aichelmann does teach the step of forming logical symbol values of the block of ECC encoded data from the accessed set of storage cells (column 4, lines 18-27).

***Conclusion***


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,502,728 (Smith, III); 5,887,270 (Brant et al.); 6,279,133 (Vafai et al.); and 6,430,702 (Santeler et al.).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel L. Moise whose telephone number is (703)305-9763. The examiner can normally be reached on M-F (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on (703)305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Emmanuel L. Moise  
Primary Examiner  
Art Unit 2136